

Aktivitas antiviral campuran propil galat dan etil galat sebagai kandidat antivirus dengue serotipe 2 in vitro = Antiviral activity of propyl gallate and ethyl gallate mixture as a candidate of antiviral drug to dengue virus serotype 2 in vitro

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Abstrak

Infeksi dengue memiliki prevalensi yang tinggi di dunia, dengan spektrum penyakit yang luas yaitu Demam Dengue, Demam Berdarah Dengue, dan Sindrom Syok Dengue. Namun, tatalaksana yang ada tidak bersifat spesifik. Sudah banyak penelitian yang dilakukan untuk mencari vaksin dan antivirus dengue. Salah satu yang sudah terbukti memiliki efek antivirus dengue adalah senyawa turunan asam galat yaitu propil galat dan etil galat. Penelitian eksperimental ini bertujuan untuk mengetahui efek antivirus campuran propil galat dan etil galat terhadap virus dengue serotipe 2 pada sel Huh7it-1. Efek sitotoksisitas senyawa terhadap sel diuji dengan metode 3- 4,5-dimethylthiazol-2-yl -2,5-diphenyltetrazolium bromide assay. Nilai yang didapat digunakan untuk mencari nilai konsentrasi toksik 50 . Efek inhibisi senyawa terhadap replikasi virus diuji dengan metode focus assay. Nilai yang didapat digunakan untuk mencari nilai konsentrasi hambat 50 . Dari hasil penelitian didapatkan nilai CC50 = 117.942 mg/ml, IC50 = 4.455 mg/ml, dan SI = 26.474. Campuran propil galat dan etil galat memiliki efek antivirus terhadap DENV-2 dan cukup selektif.

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Dengue infection have a serious prevalence in worldwide with a broad spectrum of disease from dengue fever, dengue hemorrhagic fever, and dengue shock syndrome. Otherwise, the nowadays treatment seems not specific for the dengue itself. There were a lot of study to search for the vaccine and the antivirus. One of the successful study that contained a significant effect of dengue antivirus is a chemical compound from gallate acid named propyl gallate and ethyl gallate. This experimental study aim to know the antivirus effect from the mixture of propyl gallate and ethyl gallate to the dengue virus serotype 2 in Huh7it 1 cells. Cytotoxicity effect of the mixture to the cells tested by 3 4,5 dimethylthiazol 2 yl 2,5 diphenyltetrazolium bromide assay technique. Obtained results can be used to search for the half cytotoxic concentration. The inhibition effect from this mixture to the viral replication processes tested by focus assay technique. Obtained results can be used to search for the half inhibitory concentration. From this study, the value of CC50 is 117.942 g mL, meanwhile the value of IC50 is 4.455 g mL with the SI value is 26.474. The mixture of propyl gallate and ethyl gallate have an antivirus effect to DENV 2 strain which are quite selective.